



SEQUENCE LISTING

<110> Stashenko, Philip
Okamatsu, Yoshimura
Sasaki, Hajime
Battaglino, Richard
Spaete, Ulrike

<120> Expressed Genes that Define the Osteoclast Phenotype

<130> 25669-003

<140> 10/734,692

<141> 2003-12-11

<150> 60/432,700

<151> 2002-12-11

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<170> PatentIn version 3.2

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Gln Ser Ser Leu Lys Ala Gln Gln Gly Leu Glu Ile Glu Met Phe His
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<212> PRT
<213> Homo sapiens

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Gly Ala Gln Leu Leu Pro Pro Leu Tyr Ser Leu Val Phe Val Ile Gly
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Leu Val Gly Asn Ile Leu Val Val Leu Val Leu Val Gln Tyr Lys Arg
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Leu Lys Asn Met Thr Ser Ile Tyr Leu Leu Asn Leu Ala Ile Ser Asp
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Ile Asp Arg Tyr Leu Ala Ile Val His Ala Val Phe Ala Leu Arg Ala
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Arg Thr Val Thr Phe Gly Val Ile Thr Ser Ile Ile Ile Trp Ala Leu
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Ala Ile Leu Ala Ser Met Pro Gly Leu Tyr Phe Ser Lys Thr Gln Trp
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Glu Phe Thr His His Thr Cys Ser Leu His Phe Pro His Glu Ser Leu
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Arg Glu Trp Lys Leu Phe Gln Ala Leu Lys Leu Asn Leu Phe Gly Leu
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210 215 220

Ile Leu Leu Arg Arg Pro Asn Glu Lys Lys Ser Lys Ala Val Arg Leu
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Leu Thr Ile Leu Ile Ser Val Phe Gln Asp Phe Leu Phe Thr His Glu
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Cys Glu Gln Ser Arg His Leu Asp Leu Ala Val Gln Val Thr Glu Val
275 280 285

Ile Ala Tyr Thr His Cys Cys Val Asn Pro Val Ile Tyr Ala Phe Val
290 295 300

Gly Glu Arg Phe Arg Lys Tyr Leu Arg Gln Leu Phe His Arg Arg Val
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 35 40 45

Leu Val Gly Asn Ile Leu Val Val Leu Val Leu Val Gln Tyr Lys Arg
50 55 60

Leu Lys Asn Met Thr Ser Ile Tyr Leu Leu Asn Leu Ala Ile Ser Asp
65 70 75 80

Leu Leu Phe Leu Phe Thr Leu Pro Phe Trp Ile Asp Tyr Lys Leu Lys
85 90 95

Asp Asp Trp Val Phe Gly Asp Ala Met Cys Lys Ile Leu Ser Gly Phe
100 105 110

Tyr Tyr Thr Gly Leu Tyr Ser Glu Ile Phe Phe Ile Ile Leu Leu Thr
115 120 125

Ile Asp Arg Tyr Leu Ala Ile Val His Ala Val Phe Ala Leu Arg Ala
130 135 140

Arg Thr Val Thr Phe Gly Val Ile Thr Ser Ile Ile Ile Trp Ala Leu
145 150 155 160

Ala Ile Leu Ala Ser Met Pro Gly Leu Tyr Phe Ser Lys Thr Gln Trp
165 170 175

Glu Phe Thr His His Thr Cys Ser Leu His Phe Pro His Glu Ser Leu
180 185 190

Arg Glu Trp Lys Leu Phe Gln Ala Leu Lys Leu Asn Leu Phe Gly Leu
195 200 205

Val Leu Pro Leu Leu Val Met Ile Ile Cys Tyr Thr Gly Ile Ile Lys
210 215 220

Ile Leu Leu Arg Arg Pro Asn Glu Lys Lys Ser Lys Ala Val Arg Leu
225 230 235 240

Ile Phe Val Ile Met Ile Ile Phe Phe Leu Phe Trp Thr Pro Tyr Asn
245 250 255

Leu Thr Ile Leu Ile Ser Val Phe Gln Asp Phe Leu Phe Thr His Glu
260 265 270

Cys Glu Gln Ser Arg His Leu Asp Leu Ala Val Gln Val Thr Glu Val
 275 280 285

Ile Ala Tyr Thr His Cys Cys Val Asn Pro Val Ile Tyr Ala Phe Val
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Gly Glu Arg Phe Arg Lys Tyr Leu Arg Gln Leu Phe His Arg Arg Val
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Ala Gly Phe
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Cys Cys Phe Ala Tyr Ile Ala Arg Pro Leu Pro Arg Ala His Ile Lys
 35 40 45

Glu Tyr Phe Tyr Thr Ser Gly Lys Cys Ser Asn Pro Ala Val Val Phe
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<400> 31

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Leu Pro Glu His Lys Tyr Pro Ser Leu His Ser Ser Ser Glu Ala Ile
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Arg Arg Ala Cys Leu Pro Thr Pro Pro Leu Gln Ser Asn Leu Phe Ala
 35 40 45

Ser Leu Asp Glu Thr Leu Leu Ala Arg Ala Glu Ala Leu Ala Ala Val
 50 55 60

Asp Ile Ala Val Ser Gln Gly Lys Ser His Pro Phe Lys Pro Asp Ala
 65 70 75 80

Thr Tyr His Thr Met Asn Ser Val Pro Cys Thr Ser Thr Ser Thr Val
 85 90 95

Pro Leu Ala His His His His His His His His His Gln Ala Leu Glu
 100 105 110

Pro Gly Asp Leu Leu Asp His Ile Ser Ser Pro Ser Leu Ala Leu Met
 115 120 125

Ala Gly Ala Gly Gly Ala Gly Ala Ala Gly Gly Gly Gly Gly Ala His
 130 135 140

Asp Gly Pro Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Pro Gly
 145 150 155 160

Gly Gly Gly Pro Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Pro Gly Gly
 165 170 175

Gly Gly Ala Pro Gly Gly Gly Leu Leu Gly Gly Ser Ala His Pro His
 180 185 190

Pro His Met His Gly Leu Gly His Leu Ser His Pro Ala Ala Ala Ala
 195 200 205

Ala Met Asn Met Pro Ser Gly Leu Pro His Pro Gly Leu Val Ala Ala
 210 215 220

Ala Ala His His Gly Ala Ala Ala Ala Ala Ala Ala Ala Ala Gly
 225 230 235 240

Gln Val Ala Ala Ala Ser Ala Ala Ala Ala Val Val Gly Ala Ala Gly
 245 250 255

Leu Ala Ser Ile Cys Asp Ser Asp Thr Asp Pro Arg Glu Leu Glu Ala
 260 265 270

Phe Ala Glu Arg Phe Lys Gln Arg Arg Ile Lys Leu Gly Val Thr Gln
 275 280 285

Ala Asp Val Gly Ser Ala Leu Ala Asn Leu Lys Ile Pro Gly Val Gly
 290 295 300

Ser Leu Ser Gln Ser Thr Ile Cys Arg Phe Glu Ser Leu Thr Leu Ser
 305 310 315 320

His Asn Asn Met Ile Ala Leu Lys Pro Ile Leu Gln Ala Trp Leu Glu
 325 330 335

Glu Ala Glu Gly Ala Gln Arg Glu Lys Met Asn Lys Pro Glu Leu Phe
 340 345 350

Asn Gly Gly Glu Lys Lys Arg Lys Arg Thr Ser Ile Ala Ala Pro Glu
 355 360 365

Lys Arg Ser Leu Glu Ala Tyr Phe Ala Val Gln Pro Arg Pro Ser Ser
 370 375 380

Glu Lys Ile Ala Ala Ile Ala Glu Lys Leu Asp Leu Lys Lys Asn Val
 385 390 395 400

Val Arg Val Trp Phe Cys Asn Gln Arg Gln Lys Gln Lys Arg Met Lys
 405 410 415

Phe Ser Ala Thr Tyr
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<210> 32

<211> 123

<212> DNA

<213> Homo sapiens

<400> 32

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aagtaccggt cgctgcactc cagctccgag gccatccggc gggcctgcct gccacgccc 120

ccg 123

<210> 33
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 <212> DNA
 <213> Homo sapiens

<400> 33
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<210> 34
 <211> 423
 <212> PRT
 <213> Homo sapiens

<400> 34

Met	Met	Ser	Met	Asn	Ser	Lys	Gln	Pro	His	Phe	Ala	Met	His	Pro	Thr
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Leu Pro Glu His Lys Tyr Pro Ser Leu His Ser Ser Ser Glu Ala Ile
 20 25 30

Arg Arg Ala Cys Leu Pro Thr Pro Pro Leu Gln Ser Asn Leu Phe Ala
 35 40 45

Ser Leu Asp Glu Thr Leu Leu Ala Arg Ala Glu Ala Leu Ala Ala Val
 50 55 60

Asp Ile Ala Val Ser Gln Gly Lys Ser His Pro Phe Lys Pro Asp Ala
 65 70 75 80

Thr Tyr His Thr Met Asn Ser Val Pro Cys Thr Ser Thr Ser Thr Val
 85 90 95

Pro Leu Arg His His His His His His His His His Gln Ala Leu Glu
 100 105 110

Pro Gly Asp Leu Leu Asp His Ile Ser Ser Pro Ser Leu Ala Leu Met
 115 120 125

Ala Gly Ala Gly Gly Ala Gly Gly Ala Gly Ala Ala Ala Gly Gly Gly
 130 135 140

Gly Ala His Asp Gly Pro Gly Gly Gly Gly Gly Pro Gly Gly Gly Gly
 145 150 155 160

Gly Pro Gly Gly Gly Gly Pro Gly Gly Gly Gly Gly Gly Gly Pro Gly
 165 170 175

Gly Gly Gly Gly Gly Pro Gly Gly Gly Leu Leu Gly Gly Ser Ala His
 180 185 190

Pro His Pro His Met His Ser Leu Gly His Leu Ser His Pro Ala Ala
 195 200 205

Ala Ala Ala Met Asn Met Pro Ser Gly Leu Pro His Pro Gly Leu Val
 210 215 220

Ala Ala Ala Ala His His Gly Ala Ala Ala Ala Ala Ala Ala Ala Ala
 225 230 235 240

Ala Gly Gln Val Ala Ala Ala Ser Ala Ala Ala Val Val Gly Ala
245 250 255

Ala Gly Leu Ala Ser Ile Cys Asp Ser Asp Thr Asp Pro Arg Glu Leu
260 265 270

Glu Ala Phe Ala Glu Arg Phe Lys Gln Arg Arg Ile Lys Leu Gly Val
275 280 285

Thr Gln Ala Asp Val Gly Ser Ala Leu Ala Asn Leu Lys Ile Pro Gly
290 295 300

Val Gly Ser Leu Ser Gln Ser Thr Ile Cys Arg Phe Glu Ser Leu Thr
305 310 315 320

Leu Ser His Asn Asn Met Ile Ala Leu Lys Pro Ile Leu Gln Ala Trp
325 330 335

Leu Glu Glu Ala Glu Gly Ala Gln Arg Glu Lys Met Asn Lys Pro Glu
340 345 350

Leu Phe Asn Gly Gly Glu Lys Lys Arg Lys Arg Thr Ser Ile Ala Ala
355 360 365

Pro Glu Lys Arg Ser Leu Glu Ala Tyr Phe Ala Val Gln Pro Arg Pro
370 375 380

Ser Ser Glu Lys Ile Ala Ala Ile Ala Glu Lys Leu Asp Leu Lys Lys
385 390 395 400

Asn Val Val Arg Val Trp Phe Cys Asn Gln Arg Gln Lys Gln Lys Arg
405 410 415

Met Lys Phe Ser Ala Thr Tyr
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<210> 35

<211> 1091

<212> DNA

<213> Mus musculus

<400> 35

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<210> 36
 <211> 322
 <212> PRT
 <213> Mus musculus

<400> 36

Met Cys Ala Phe Tyr Leu Gln Leu Gln Ser Asn Ile Phe Gly Gly Leu
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Asp Glu Ser Leu Leu Ala Arg Ala Glu Ala Leu Ala Ala Val Asp Ile
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Val Ser Gln Ser Lys Ser His His His His Pro Pro His His Ser Pro
 35 40 45

Phe Lys Pro Asp Ala Thr Tyr His Thr Met Asn Thr Ile Pro Cys Thr

50	55	60
Ser Ala Ala Ser Ser Ser Val Pro Ile Ser His Pro Ser Ala Leu 65 70 75 80		
Ala Gly Thr His His His His His His His His His His His His Gln 85 90 95		
Pro His Gln Ala Leu Glu Gly Glu Leu Leu Glu His Leu Ser Pro Gly 100 105 110		
Leu Ala Leu Gly Ala Met Ala Gly Pro Asp Gly Thr Val Val Ser Thr 115 120 125		
Pro Ala His Ala Pro His Met Ala Thr Met Asn Pro Met His Gln Ala 130 135 140		
Ala Leu Ser Met Ala His Ala His Gly Leu Pro Ser His Met Gly Cys 145 150 155 160		
Met Ser Asp Val Asp Ala Asp Pro Arg Asp Leu Glu Ala Phe Ala Glu 165 170 175		
Arg Phe Lys Gln Arg Arg Ile Lys Leu Gly Val Thr Gln Ala Asp Val 180 185 190		
Gly Ser Ala Leu Ala Asn Leu Lys Ile Pro Gly Val Gly Ser Leu Ser 195 200 205		
Gln Ser Thr Ile Cys Arg Phe Glu Ser Leu Thr Leu Ser His Asn Asn 210 215 220		
Met Ile Ala Leu Lys Pro Ile Leu Gln Ala Trp Leu Glu Glu Ala Glu 225 230 235 240		
Lys Ser His Arg Glu Lys Leu Thr Lys Pro Glu Leu Phe Asn Gly Ala 245 250 255		
Glu Lys Lys Arg Lys Arg Thr Ser Ile Ala Ala Pro Glu Lys Arg Ser 260 265 270		
Leu Glu Ala Tyr Phe Ala Ile Gln Pro Arg Pro Ser Ser Glu Lys Ile 275 280 285		

Ala Ala Ile Ala Glu Lys Leu Asp Leu Lys Lys Asn Val Val Arg Val
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Trp Phe Cys Asn Gln Arg Gln Lys Gln Lys Lys Val Lys Tyr Ser Ala
 305 310 315 320

Gly Ile

<210> 37
 <211> 3110
 <212> DNA
 <213> Homo sapiens

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<210> 38
 <211> 410
 <212> PRT
 <213> Homo sapiens

<400> 38

Met Met Met Met Ser Leu Asn Ser Lys Gln Ala Phe Ser Met Pro His
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Gly Gly Ser Leu His Val Glu Pro Lys Tyr Ser Ala Leu His Ser Thr
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Ser Pro Gly Ser Ser Ala Pro Ile Ala Pro Ser Ala Ser Ser Pro Ser
 35 40 45

Ser Ser Ser Asn Ala Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
 50 55 60

Gly Gly Gly Gly Gly Arg Ser Ser Ser Ser Ser Ser Ser Gly Ser Ser
 65 70 75 80

Gly Gly Gly Gly Ser Glu Ala Met Arg Arg Ala Cys Leu Pro Thr Pro
 85 90 95

Pro Ser Asn Ile Phe Gly Gly Leu Asp Glu Ser Leu Leu Ala Arg Ala
 100 105 110

Glu Ala Leu Ala Ala Val Asp Ile Val Ser Gln Ser Lys Ser His His
 115 120 125

His His Pro Pro His His Ser Pro Phe Lys Pro Asp Ala Thr Tyr His
 130 135 140

Thr Met Asn Thr Ile Pro Cys Thr Ser Ala Ala Ser Ser Ser Ser Val
 145 150 155 160

Pro Ile Ser His Pro Cys Ala Leu Ala Gly Thr His His His His His
165 170 175

His His His His His His His Gln Pro His Gln Ala Leu Glu Gly Glu
180 185 190

Leu Leu Glu His Leu Ser Pro Gly Leu Ala Leu Gly Ala Met Ala Gly
195 200 205

Pro Asp Gly Ala Val Val Ser Thr Pro Ala His Ala Pro His Met Ala
210 215 220

Thr Met Asn Pro Met His Gln Ala Ala Leu Ser Met Ala His Ala His
225 230 235 240

Gly Leu Pro Ser His Met Gly Cys Met Ser Asp Val Asp Ala Asp Pro
245 250 255

Arg Asp Leu Glu Ala Phe Ala Glu Arg Phe Lys Gln Arg Arg Ile Lys
260 265 270

Leu Gly Val Thr Gln Ala Asp Val Gly Ser Ala Leu Ala Asn Leu Lys
275 280 285

Ile Pro Gly Val Gly Ser Leu Ser Gln Ser Thr Ile Cys Arg Phe Glu
290 295 300

Ser Leu Thr Leu Ser His Asn Asn Met Ile Ala Leu Lys Pro Ile Leu
305 310 315 320

Gln Ala Trp Leu Glu Glu Ala Glu Lys Ser His Arg Glu Lys Leu Thr
325 330 335

Lys Pro Glu Leu Phe Asn Gly Ala Glu Lys Lys Arg Lys Arg Thr Ser
340 345 350

Ile Ala Ala Pro Glu Lys Arg Ser Leu Glu Ala Tyr Phe Ala Ile Gln
355 360 365

Pro Arg Pro Ser Ser Glu Lys Ile Ala Ala Ile Ala Glu Lys Leu Asp
370 375 380

Leu Lys Lys Asn Val Val Arg Val Trp Phe Cys Asn Gln Arg Gln Lys
 385 390 395 400

Gln Lys Arg Met Lys Tyr Ser Ala Gly Ile
 405 410

<210> 39

<211> 1594

<212> DNA

<213> Mus musculus

<400> 39

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<210> 40
<211> 338
<212> PRT
<213> Mus musculus

<400> 40

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Gln Glu Pro Lys Phe Ser Ser Leu His Ser Gly Ser Glu Ala Met Arg
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Arg Val Cys Leu Pro Ala Pro Gln Leu Gln Gly Asn Ile Phe Gly Ser
35 40 45

Phe Asp Glu Ser Leu Leu Ala Arg Ala Glu Ala Leu Ala Ala Val Asp
50 55 60

Ile Val Ser His Gly Lys Asn His Pro Phe Lys Pro Asp Ala Thr Tyr
65 70 75 80

His Thr Met Ser Ser Val Pro Cys Thr Ser Thr Ser Pro Thr Val Pro
85 90 95

Ile Ser His Pro Ala Ala Leu Thr Ser His Pro His His Ala Val His
100 105 110

Gln Gly Leu Glu Gly Asp Leu Leu Glu His Ile Ser Pro Thr Leu Ser
115 120 125

Val Ser Gly Leu Gly Ala Pro Glu His Ser Val Met Pro Ala Gln Ile
130 135 140

His Pro His His Leu Gly Ala Met Gly His Leu His Gln Ala Met Gly
145 150 155 160

Met Ser His Pro His Ala Val Ala Pro His Ser Ala Met Pro Ala Cys
165 170 175

Leu Ser Asp Val Glu Ser Asp Pro Arg Glu Leu Glu Ala Phe Ala Glu
180 185 190

Arg Phe Lys Gln Arg Arg Ile Lys Leu Gly Val Thr Gln Ala Asp Val
195 200 205

Gly Ala Ala Leu Ala Asn Leu Lys Ile Pro Gly Val Gly Ser Leu Ser
210 215 220

Gln Ser Thr Ile Cys Arg Phe Glu Ser Leu Thr Leu Ser His Asn Asn
225 230 235 240

Met Ile Ala Leu Lys Pro Val Leu Gln Ala Trp Leu Glu Glu Ala Glu
245 250 255

Ala Ala Tyr Arg Glu Lys Asn Ser Lys Pro Glu Leu Phe Asn Gly Ser
260 265 270

Glu Arg Lys Arg Lys Arg Thr Ser Ile Ala Ala Pro Glu Lys Arg Ser
275 280 285

Leu Glu Ala Tyr Phe Ala Ile Gln Pro Arg Pro Ser Ser Glu Lys Ile
290 295 300

Ala Ala Ile Ala Glu Lys Leu Asp Leu Lys Lys Asn Val Val Arg Val
305 310 315 320

Trp Phe Cys Asn Gln Arg Gln Lys Gln Lys Arg Met Lys Tyr Ser Ala
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Val Asp

<210> 41

<211> 120

<212> DNA

<213> Homo sapiens

<400> 41

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<210> 42
 <211> 897
 <212> DNA
 <213> Homo sapiens

<400> 42
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<400> 43
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Glu Arg Lys Arg Lys Arg Thr Ser Ile Ala Ala Pro Glu Lys Arg Ser
 275 280 285

Leu Glu Ala Tyr Phe Ala Ile Gln Pro Arg Pro Ser Ser Glu Lys Ile
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Val His

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<210> 49
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<400> 49
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